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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/701,044	11/04/2003	Michael G. Adlerstein	RTN2-153PUS	5522
51503	7590	09/27/2005		
RAYTHEON COMPANY c/o DALY, CROWLEY, MOFFORD & DURKEE, LLP 354A TURNPIKE STREET SUITE 301A CANTON, MA 02021-2714				
			EXAMINER NGUYEN, VINCENT Q	
			ART UNIT 2858	PAPER NUMBER
DATE MAILED: 09/27/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

**Office Action Summary**

Application No.

10/701,044

Applicant(s)

ADLERSTEIN ET AL.

Examiner

Vincent Q. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on response 9/16/2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7, 9-11, 14-17 and 20 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 8, 12, 13, 18, 19, 21-23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/4/03, 9/16/2005.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, are rejected under 35 U.S.C. 102(b) as being anticipated by Djorup (4,793,182).

Regarding claim 1, Djorup discloses a circuit comprising (figure 1) a Wheatstone bridge (12, 21-23) having at least one element (12) thereof thermally responsive to the radio frequency energy passing therethrough differently from radio frequency energy passing though at least one other element of the bridge (12, 21-23).

Regarding claim 2, Djorup discloses a Wheatstone bridge having a pair of parallel circuit paths disposed between a pair of input nodes, each path having a pair of serially connected elements (23, 25) (12, 12), each pair of elements in each one of the paths being connected at a corresponding one of a pair of output nodes, at least one element (12) in a first one of the pair (21, 12) of paths being thermally responsive to the radio frequency energy passing therethrough differently from radio frequency energy passing through at least one other element in the other one of the pair of paths.

3. Claims 1-4, 7, 9-11, 14-17, 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Strenglein (3,928,800).

Regarding claim 1, Strenglein discloses a circuit comprising (figure 1) a Wheatstone bridge (1, 2, 3, 4) having at least one element (4) thereof thermally responsive to the radio frequency energy passing therethrough differently from radio frequency energy passing through at least one other element of the bridge (1, 2, 3, 4).

Regarding claim 2, Strenglein discloses a Wheatstone bridge having a pair of parallel circuit paths disposed between a pair of input nodes (In fact the parallel path is true not only for the prior art of Strenglein but also true for any prior art of Wheatstone bridge), each path having a pair of serially connected elements (1, 2, 3, 4), each pair of elements (1, 2) in each one of the paths being connected at a corresponding one of a pair of output nodes, at least one element (4) in a first one of the pair (2, 4) of paths being thermally responsive to the radio frequency energy passing therethrough differently from radio frequency energy passing through at least one other element in the other one of the pair of paths.

Regarding claim 3, Strenglein does not explicitly the input nodes is coupled to a source of the radio frequency energy but it is inherent that the input nodes is radio coupled to the radio frequency energy.

Regarding claim 4, Strenglein discloses a feedback loop (9) responsive to a voltage produced across the output node for providing a control voltage to the first one of the pair of input node.

Regarding claims 7, 9-11, 14-17, 20, Strenglein discloses a circuit for sensing radio frequency energy comprising (figure 1) a Wheatstone bridge having a pair of parallel circuit paths disposed between a pair of input nodes, each path having a pair of

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serially connected elements (1, 2, 3, 4), each pair of elements (1, 2) in each one of the paths being connected at a corresponding one of a pair of output nodes, at least one element (4) in a first one of the pair (2, 4) of paths being thermally responsive to the radio frequency energy passing therethrough differently from radio frequency energy passing through at least one other element in the other one of the pair of paths; wherein a first one of the input nodes is coupled to a source of the radio frequency energy (The input node is radio coupled to the RF energy) and to a source of dc voltage (The source supplies power to the system); and a feedback loop (9) responsive to a voltage produced across the output node for providing a control voltage to the first one of the pair of input node.

#### ***Allowable Subject Matter***

Claims 5, 6, 8, 12, 13, 18, 19, 21-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

4. Applicant's arguments filed 9/16/2005 have been fully considered but they are not persuasive.

In response to Applicant's argument that: "Referring to Djorup, the impedance of element 12 changes with moisture and changes the frequency of the oscillator 5. There does not appear to be any radio frequency energy passing through elements 21, 22, or 23."

It is respectfully noted that, the claim recites "at least one element". Therefore, "at least one element" (Element 12 of Djorup) reads on the claim. As Applicant admitted that at least element 12 is "RF energy passing through element". The fact is that element 12 communicates with RF oscillator (5) through RF electrode 15 (See col. 5, line 43-44) (The oscillator 5 is radio frequency (RF) oscillator (col. 4, lines 27). For element 12 to conduct RF signal, all other elements (Element 21-23) in the bridge circuit must conduct RF signal. If other elements are incapable to conduct RF signal, the circuit does not work.

### ***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

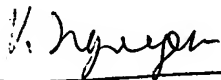
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Contact Information***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vincent Q. Nguyen whose telephone number is (571) 272-2234. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



September 23, 2005

Vincent Q. Nguyen  
Primary Examiner  
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